Telescope Sight 4 x 24

For G3 Rifle

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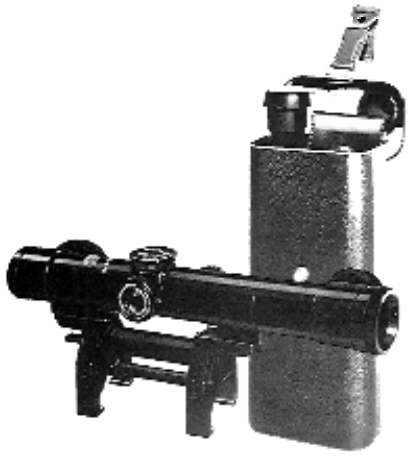

Instruction Manual

Heckler & Koch, Inc.
U.S.A.

WARNING: READ ALL INSTRUCTIONS BEFORE HANDLING & USING THIS FIREARM.

Safety Rules

PLEASE READ THIS BEFORE HANDLING YOUR FIREARM.

The following safety rules are placed in this manual by Heckler & Koch, Inc. as an important reminder that firearms safety is your responsibility. Firearms can be dangerous and can potentially cause serious injury, damage to property or death, if handled improperly

1. Never point a firearm at anyone, or in any direction other than a safe one, i.e., downrange

2. Always treat all firearms as if they were loaded.

3. Keep your finger off the trigger until your sights are on the target.

4. Keep your finger off the trigger while loading or unloading the pistol.

5. Keep your finger off the trigger while pulling pistol out of the holster or holstering.

6. Be sure of your target and the back stop beyond.

7. Never give to or take a firearm from anyone unless the action is open.

8. Be sure that the ammunition you are using is factory loaded and is not damaged in anyway.

9. Before firing, remove the magazine from the weapon, lock the bolt to the rear and check the barrel of your unloaded firearm for any possible obstructions.

10. Before firing any firearm unfamiliar to you, make sure that you understand how it functions. Unfamiliarity can cause serious accidents. Attend a certified training course on any firearm which you intend to use or with which you are not sufficiently familiar.

11. Wear hearing protection and eye protection when shooting your firearm.

12. Keep your hands and fingers away from the muzzle to avoid injury or burns.

13. Firearms and ammunition should be stored separately beyond the reach of children and untrained or irresponsible adults.

14. Avoid the use of alcoholic beverages before and during any shooting.

REMEMBER: A FIREARM HAS THE CAPABILITY OF TAKING YOUR LIFE OR THE LIFE OF SOMEONE ELSE! BE CAREFUL WITH YOUR FIREARM – AN ACCIDENT IS ALMOST ALWAYS THE RESULTS OF NOT FOLLOWING BASIC SAFETY RULES.

Maintenance Log

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1. Description of Equipment

1.1 Designation

Telescope sight 4 x 24 for G3 rifle

1.1.1	Drawing No.	330143
1.1.2	Stock No.	1240-12-144-0716
1.1.3	Item Name	TELESCOPE, SIGHT, RIFLE
1.1.4	Developing Firm	M. Hensoldt & Söhne Wetzlar
1.1.5	Manufacturing Firm	M. Hensoldt & Söhne Wetzlar

1.2 Purpose

The telescope sight is designed for use of the G3 rifle as a sharpshooter weapon. It enables the rifleman to acquire and sight the target, and permits observation of enemy and effects on target even over major ranges. The maximum adjustable sighting range is 600 meters.

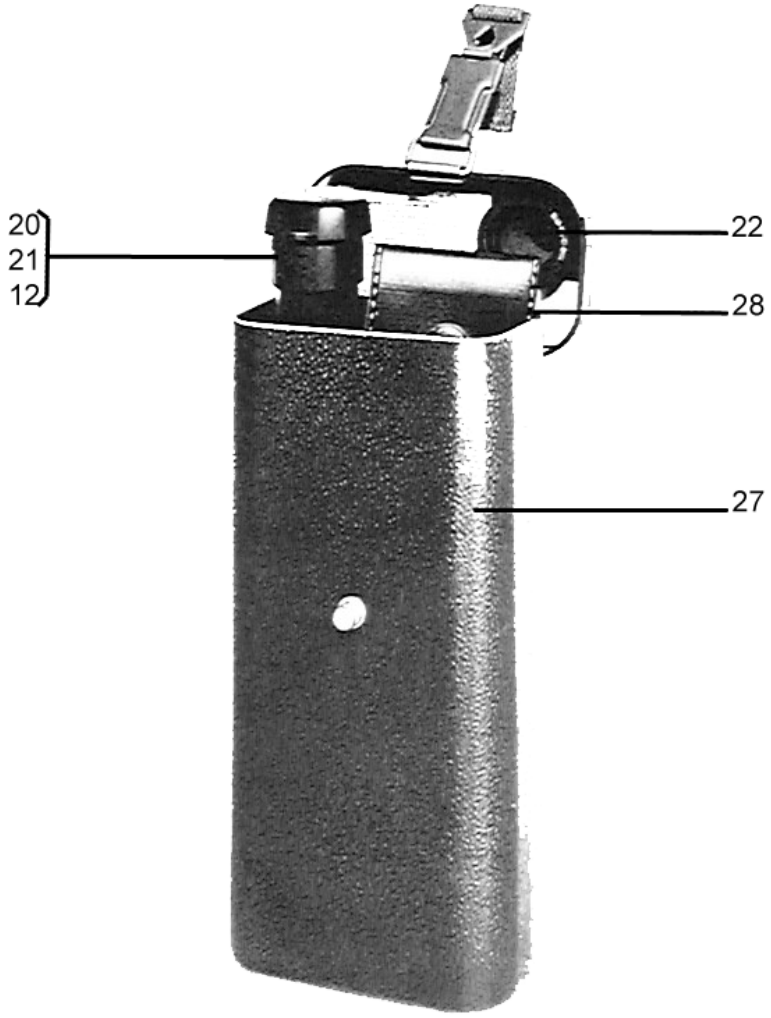
1.3 Scope of Supply

1.3.1 One telescope sight

Drawing No.	330143-9001
Stock No.	1240-12-144-0714
Item Name	

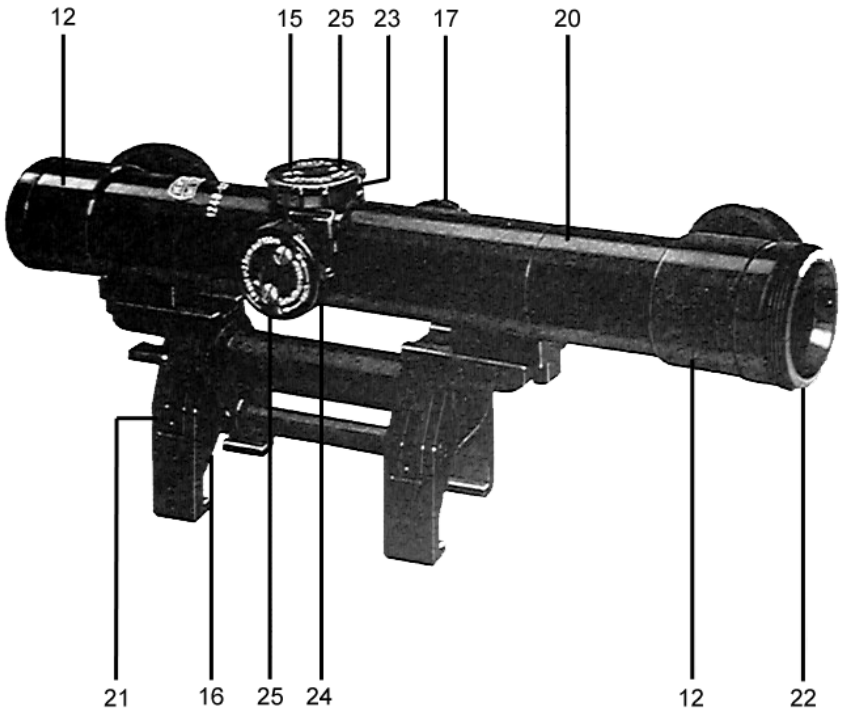
1.3.2 Two rubber protection caps

Drawing No.	330108-0202
Stock No.	1240-12-129-4060
Item Name	PROTECTION CAP, TELESCOPE SIGHT



20 |		22 = Grey filter
21 |	= Telescope sight with mounting	27 = Container
12 |	assembly and rubber protection caps	28 = Tool kit w/ accessories

(Figure 6)



12 = Protection caps	21 = Mounting assembly
15 = Elevation adjustment control	22 = Grey filter
16 = Lateral adjustment control	23 = Detent ring (Elevation control)
17 = Dioptrical adjustment control	24 = Detent ring (Lateral control)
20 = Telescope sight	25 = Cover screws

(Figure 5)

1.3.3 One anti-dazzle filter

Drawing No. 330108-9003
Stock No. 1240-12-144-0715
Item Name FILTER, LIGHT, TELESCOPE

1.3.4 One container

Drawing No. 330143-9004
Stock No. 1240-12-144-0713
Item Name CONTAINER, TELESCOPE SIGHT

1.3.5 One tool kit with accessories

Drawing No. 335917
Stock No. -
Item Name TOOL KIT, complete

1.3.5.1 One tool kit holder

Drawing No. 335917-8010
Stock No. 5140-12-146-5698
Item Name TOOL KIT HOLDER

1.3.5.2 One screwdriver

Drawing No. 335917-8020
Stock No. 5120-12-121-1092
Item Name SCREWDRIVER, LONGITUDINAL SLOT TYPE
4.5 X 40 mm blade, 100 mm long

1.3.5.3 One dust brush

Drawing No. Acc. To TL 7920-024
Stock No. 7920-12-120-0355
Item Name BRUSH, DUST, OPTICAL LENSES
10 mm dia., quill-type holder

1.3.5.4 One lens cleaning rag

Drawing No.	80 x 115 mm gezackt
Stock No.	6640-12-124-6982
Item Name	CLEANING RAG, LENS Cotton, 80 x 115 mm

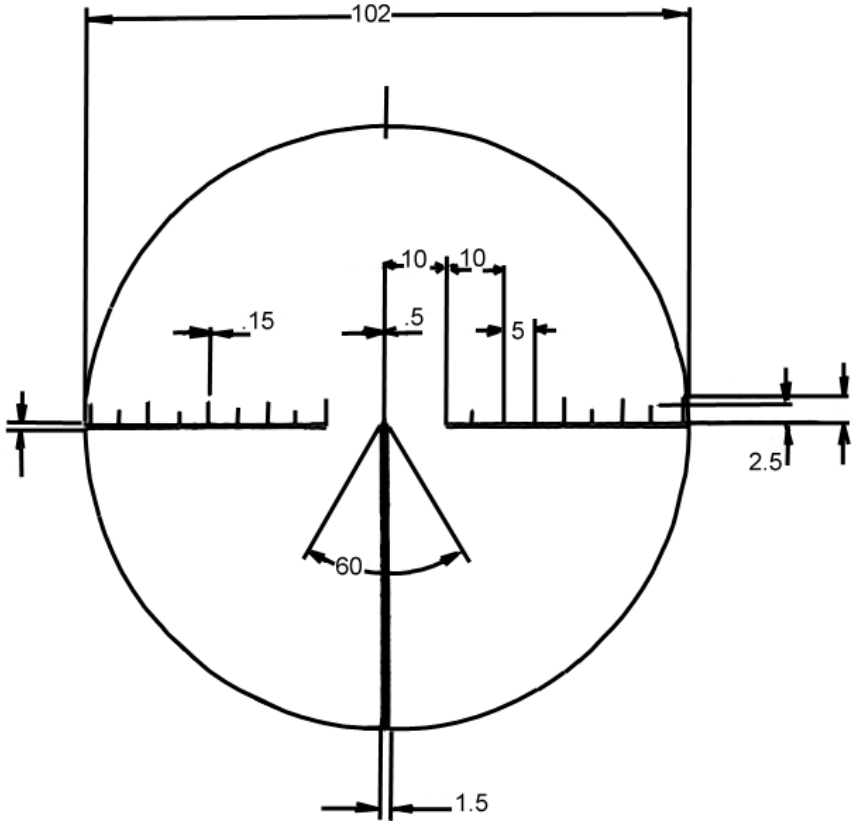
1.3.6 One holder (mount)

Drawing No.	Acc. To HK 100 236
Stock No.	1240-12-140-9932
Item Name	MOUNTING, TELESCOPE SIGHT, RIFLE

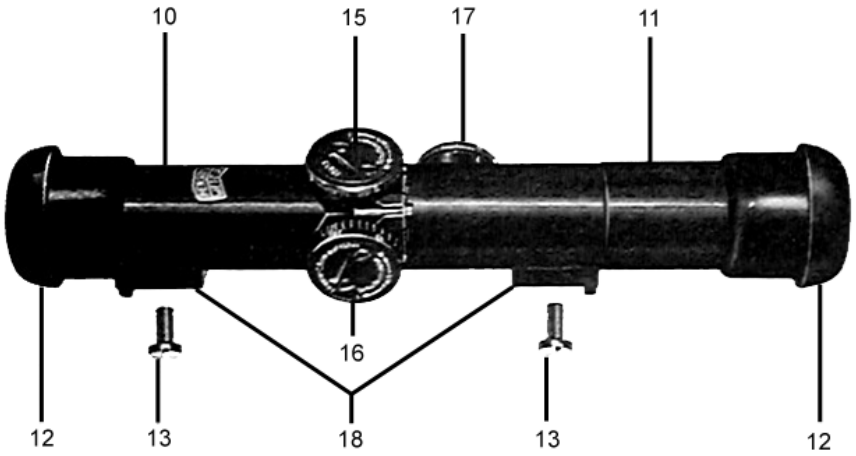
1.4 Technical Data

1.4.1 **Optical Data**

1.4.1.1	Telescope magnifying power (V)	4 x
1.4.1.2	Entry pupil diameter (EP)	24 mm
1.4.1.3	Exit pupil diameter (AP)	6 mm
1.4.1.5	Dioptrical adjustment	+/- 2 dioptries
1.4.1.6	Angle of field of vision	5° 40′
1.4.1.7	Field of vision	100 m / 1000 m
1.4.1.8	Reticule layout	Target mark with lateral graduation grid, according to FINABEL
1.4.1.9	Insert filter	Grey (NG 4, 2.6 mm thick, approx. 94% absorption)



Layout Pattern of Reticule (Figure 4)



10 = Main tube	15 = Elevation adjustment control
11 = Eyepiece	16 = Lateral adjustment control
12 = Protection cap	17 = Dioptrical adjustment control
13 = Attachment screws	18 = Telescope sight holder

(Figure 3)

1.4.2	**Mechanical Data and Dimensions** (Figure 1)	
1.4.2.1	Angular sight adjustment control, with detents for steps of 100 meters each	100 to 600 meters
1.4.2.2	Over travel for adjustment	+/- 1
1.4.2.3	Lateral adjustment control, with detents for steps of .25” each	+/- 2.5”
1.4.2.4	Over travel for adjustment	+/- 1
1.4.2.5	All telescope sights are adjusted to the same point at elevation setting “1” and lateral setting “0”	Permissible deviation +/- 0.5”
1.4.2.6	Total length of telescope sight assembly with rubber protection caps	230 mm
1.4.2.7	Rubber protection cap	38 mm diameter
1.4.2.8	Tube	29 mm diameter
1.4.2.9	Sight lens eyepiece	30 mm diameter
1.4.2.10	Distance between optical axis and sight tube holders	20.5 mm
1.4.2.11	Telescope sight tube holders	According to STANAG 2324
1.4.2.12	Mounting screws	M 6; 10.5 mm long
1.4.2.13	Container (outside dimensions)	Appr. 230 x 105 x 63 mm
1.4.2.14	Distance between optical axis and theoretical bore axis (due to mounting)	87.5 mm

1.4.3 **Weight Data**

1.4.3.1	Telescope sight	Approx. 0.35 kilos
1.4.3.2	Telescope sight with mounting assembly	Approx 0.65 kilos
1.4.3.3	Telescope sight with mounting assembly and container with accessories	Approx 1 kilo

1.5 Structure

1.5.1 **General**

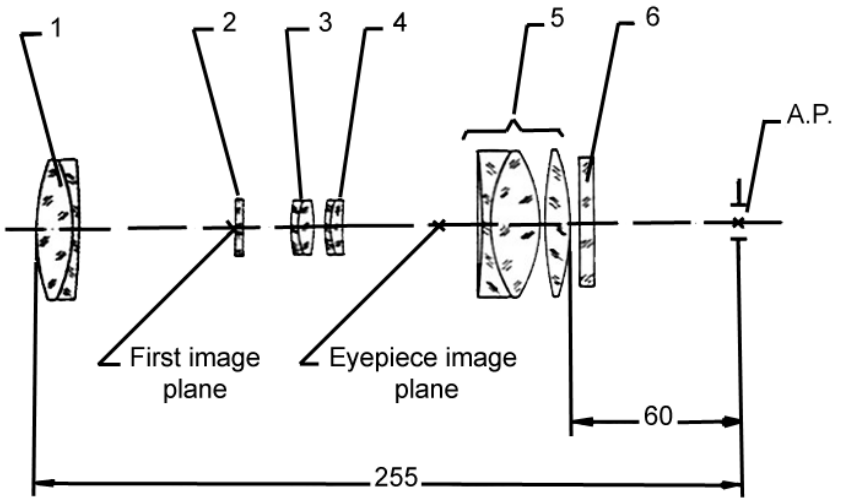
The telescope sight is a monocular telescope of linear structure with an inversion lens system. For the setting of the sight angle the target mark will be adjusted in elevation.

1.5.2 **Optical Structure** (Figure 2)

The incoming light beams pass through lens (1) and are generated on the first image plane. The reticule (2) with target mark is arranged in this image plane. The image of the first image plane is generated in the image plane of the eyepiece via two double-member inversion lenses (3 and 4), and observed through the eyepiece (5). A gray filter (6) can be inserted optionally in front of the eyepiece.

1.5.3 **Mechanical Structure** (Figure 3)

The telescope sight consists of the **main tube** (10) with the attached **eyepiece sleeve** (11). One **rubber protection cap** (12) each is attached on the sides of lens and eyepiece. Two **attachment screws** (13) are provided for the attachment to the mounting assembly.

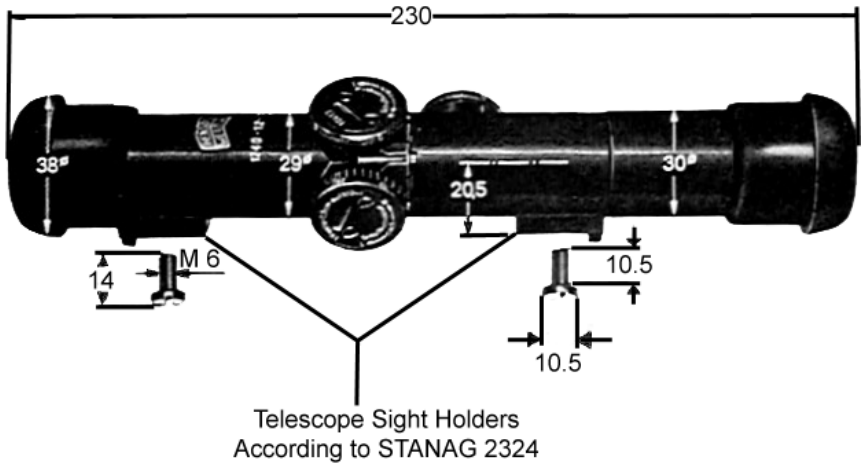


1 = Eyepiece	4 = Inversion lens
2 = Reticule Plate	5 = Eyepiece
3 = Inversion lens	6 = Grey filter

Optical Structure (Figure 2)

4. Maintenance Schedule

Item:	Period:	Explanation:
3.1	w, p, a	w = weekly
3.2	w, p, a	m = monthly
3.3	p, a	p = prior to use
3.4	m	a = after use
3.5	*	* = conditional



Main Dimensions of Equipment (Figure 1)

1.5.3.1 The following components are externally attached to the **main tube** (10): Elevation adjustment control (15), lateral adjustment control (16), dioptrical adjustment control (17), and telescope sight holders (18) designed according to STANAG 2324. The eyepiece (1) and the reticule plate (2) with their mechanical mountings are installed in the interior of the main tube.

1.5.3.2 The **eyepiece sleeve** (11) contains the eyepiece (5) and the two double-member inversion lenses (3 and 4).

1.5.3.3 The **protection caps** (12) arranged on the eyepiece and lens sides of the unit also serve as protection against mechanical damage; when the sight is not used, they are closed by reversing.

1.5.3.4 The **attachment screws** (13) serve for the attachment of the telescope sight on the mounting assembly. They are provided with a self-locking Nylon insert

2. Operation

2.1 **Transport** (Figure 6)

2.2 **Control Elements**

2.2.1 **Focus adjustment** of the image is made by the dioptrical adjustment control (17). The adjustment tolerance range is +/- 2 dioptries.

2.2.2 The **reticule plate** is arranged according to Figure 4. The target marker with lateral graduation grid is designed according to the FINABEL principle.

2.2.3 The **angular adjustment** of the sight is effected by the elevation adjustment control (15).

2.2.4 **Lateral correction adjustment** is effected by the lateral adjustment control (16).

2.2.5 The **rubber protection caps** (12) prevent mechanical damage.

2.2.6 **Attachment** of the telescope sight to the mounting assembly is effected by means of the telescope tube holders (18) and the attachment screws (13).

2.2.7 A gray filter according to item 1.3.3 can be inserted in the protection cap on the eyepiece side as **anti-dazzle protection**.

2.3 Installation of Telescope Sight and Adjustment to Weapon (Figure 5)

2.3.1 Install the telescope sight (20) with mounting assembly (21) on rifle. Check that attachment is properly made.

2.3.2 Open the rubber protection caps (12) on the eyepiece and lens sides of the telescope by reversing them

2.3.3 Adjust optimal focus on adjustment ring of dioptrical adjustment control (17) by turning **from plus to minus**

2.3.4 In the case of major dazzling effects caused by sun or snow, insert gray filter (22) in rubber protection cap on eyepiece side.

2.3.5 Adjust detent ring (23) of elevation adjustment control to 100 meters (Detent “1”) and detent ring (24) of lateral adjustment control to “0”

2.3.6 Loosen cover screws (25) with screwdriver, item 1.3.5.2

2.3.7 Adjust rifle sight to 100 meters, and sight target 100 meters away over notch and bead sights.

2.3.8 Set target marker of telescope sight to the same target point by operating elevation adjustment control (15) and lateral adjustment control (16) with a coin. Check that the setting of the detent rings made according to item 2.3.5 remains undisturbed

2.3.9 Fire trial shots and readjust target marker after each shot if necessary. The direction of turning for correction after each shot is indicated on the cover discs of the elevation and lateral adjustment controls (15 and 16)

2.3.10 Tighten cover screws (25) after completion of adjustment

2.3.11 Elevation adjustment control (15) will now be set to detent 1 to 6 depending on target ranging between distances of 100 to 600 meters. For this the target marker is shifted and adjusted by elevation, whereby the sight angle corresponding to the respective range is also set.

3. Maintenance

3.1 Check optical parts for cleanliness. Dirty optical components shall be cleaned exclusively with soft dust brush and optical cleaning rag after steaming parts with breath; do not touch parts with fingers (dust brush and optical cleaning rags are supplied in accessory kit). Minor blemishes (scratches) on outside of optical lenses will not impair the function of the equipment. Cracked glass components, however, must be replaced (return equipment to base for repair).

3.2 Remove dust and dirt from outside mechanical surfaces with dry rag or brush. Remove major contamination (i.e. oil and grease) with a rag soaked with gasoline. Clean moving parts and precision ground faying surfaces with particular care.

3.3 Check controls and moving parts for easy and smooth operation. Oil slightly with a non-acid oil.

3.4 Disinfect rubber protection caps. Moisten clean rag with Sagrotan solution, and wipe rubber parts.

3.5 Touch up damage varnish after previous degreasing with an air-drying varnish RAL 9005.